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NRDC Comments on 2019 Energy Efficiency Action Plan

Please see the attached word document.

Additional submitted attachment is included below.

**Comments of the Natural Resources Defense Council (NRDC) on the
2019 Energy Efficiency Action Plan and the August 27th Joint Agency Workshop on
Energy Efficiency and Building Decarbonization
Docket Number 19-IEPR-06, (September 24, 2019)
Submitted by: Mohit Chhabra (mchhabra@nrdc.org)**

I. Introduction and Summary

The Natural Resources Defense Council (“NRDC”) respectfully submits these comments on the 2019 Energy Efficiency Action Plan (“EEAP”) and the related joint agency workshop on energy efficiency and building decarbonization held at the California Energy Commission (CEC) on August 27th, 2019. NRDC is a non-profit membership organization with more than 95,000 California members who have an interest in receiving affordable energy services while reducing the environmental impact of California’s energy consumption.

II. Discussion

NRDC appreciates the Energy Commission staff’s efforts in developing the EEAP in a thorough and transparent manner. Below is an overview of NRDC’s detailed comments:

- Overarching Comments: The CEC should organize, prioritize, and provide a timeline for the related recommendations to enable successful implementation. In addition, the CEC should use an equity lens for all of the goals and recommendations, not solely limited to the recommendations removing barriers for disadvantaged communities. Finally, the CEC should utilize and/or expand existing advisory groups to ensure successful implementation of the EEAP.
- Goal 1: Doubling Energy Efficiency (EE) Savings by 2030. The CEC should provide policy guidance to reorganize energy efficiency program administrator (EEPA) programs (i.e., those programs funded from energy customer bills) to better align with California’s energy, environmental, and equity policy objectives. We also urge the CEC to provide statewide guidance for conducting energy efficiency potential studies and include best practices for targeting efficiency programs for maximum impact.
- Goal 2: Expanding EE in Low Income and Disadvantaged Communities. The CEC should make the EEAP more actionable by including recommendations for

how the disparate equity initiatives in the state should come together to achieve Goal 2's objectives. NRDC further urges the CEC to include a recommendation that communities be involved from the onset of the decision-making process of programs that impact them.

- Goal 3: Reducing Greenhouse Gas Emissions from Buildings. NRDC encourages the CEC to engage stakeholders early in the development of the AB 3232 report and offers suggestions to enhance EEAP recommendations pertaining to the following aspects of building decarbonization: market development, local government support, program integration, and equity.

A. Overarching Comments: The CEC should (1) organize, prioritize, and provide a timeline for the numerous recommendations, (2) ensure an equity lens is applied to all recommendations, and (3) use or expand existing advisory groups to ensure successful implementation.

There are numerous compelling recommendations throughout the action plan, yet with a wide range of tasks assigned to various entities it is unclear how they will be implemented and on what timeline. We recommend the final EEAP including the following actions to ensure successful implementation:

1. The recommendations should be organized by type and given a timeline to ensure alignment. For example, NRDC strongly supports the concept of looking for funding beyond energy customer bills. The ability to address numerous benefits that serve all Californians could be better achieved with a co-funded statewide program. However, many of the current EEAP recommendations are assigned to different entities and are not discussed in unison. Without a clear plan to collectively implement similar recommendations and on what timeline, it will be difficult to effectuate change.

We recommend that instead of further compartmentalizing programs into silos by looking to establish additional funding for potentially separate programs outside the EE PA programs, the CEC should recommend that there be a single co-funded energy and affordability program statewide fund to be established by the end of 2020. The similar tasks currently outlined in the draft EEAP (e.g., Goal 1.a, f, n, s

and Goal 2.b, d, etc.) could then be aggregated under that single objective. Compliance, best practices, and data recommendations could also benefit from a similar reorganization.

2. The CEC should make clear that the EEAP is intended to achieve California's dual goals of achieving carbon neutrality in an equitable manner. In addition to the specific low-income and disadvantaged communities' objectives, the final EEAP should clearly apply an equity lens to all recommendations, including those within Goal 1 (Doubling Energy Efficiency) and Goal 3 (Decarbonizing Buildings). Otherwise, the tasks under these goals may not take the needs of different communities into account, thus potentially leaving the most vulnerable populations behind for any action that is not squarely in Goal 2.
3. The CEC should utilize and/or expand existing advisory groups to aid in implementation: Although the CEC is taking the lead on the majority of tasks, it is unclear how the recommendations will be achieved. There are numerous collaborative entities in place in California (e.g., the California Technical Forum, the California Energy Efficiency Coordinating Committee, and the ongoing coordination across energy agencies) that should be utilized. For example, all technical recommendations could be led by the California Technical Forum under the CEC's purview. There also continues to be a need for a cross-agency advisory or implementation body – similar to that recommended in the last action plan – to ensure these recommendations are implemented in a cohesive, collaborative, and transparent manner. Without such a body with staff dedicated solely to carrying out the goals and tasks of the EEAP, it is unclear how the state will take timely action. We recommend the CEC lay out an implementation strategy for how these important activities will be implemented and on what timeframe.

B. Goal 1: Doubling Energy Efficiency Savings by 2030

One of the important roles of the CEC is to provide policy guidance for the state to implement successful energy efficiency efforts. Therefore, in the final EEAP the CEC should outline a path to:

- Reorganize the energy efficiency (EE) program portfolios to better align program goals with the policy objectives they intend to achieve.
- Provide guidance for all EE potential studies to assess the energy-saving potential by looking at the unique characteristics of customer energy across the state.
- Include a task for developing best practices to ensure energy efficiency program administrator (EE PA) programs are strategically targeted for maximum savings.

1. Recommendation: Reorganize energy efficiency portfolios to better align with policy goals.

Energy efficiency (EE) portfolios in California have traditionally fulfilled multiple objectives along with the primary objective of meeting load growth in a least cost manner. Apart from being the least-cost solution to meeting load growth, California policies have led EE portfolios to undertake research on emerging technologies, administer low- and middle-income programs which have a strong focus on equity, conduct workforce training to ensure best energy practices in buildings, and invest long-term market transformation efforts. Spending electric customer funds on achieving objectives other than energy saved is justified only if the energy efficiency portfolio is cost-effective.

While the publicly-owned utilities continue to have substantial leeway to achieve all objectives under their current portfolios¹ the EE PA programs under the CPUC purview are struggling to meet cost-effectiveness (i.e., a total resource cost test of 1.25 or above). Recent developments have contributed to this challenge, such as the decrease in the cost of natural gas,² increasing penetration of low-cost renewable energy, and successful codes and standards (e.g., lighting and appliance standards). In addition, the multiple policy objectives laid out by legislation over the past few years require higher priorities on disadvantaged communities. Lower available (and claimable) energy savings coupled with a higher focus on customer segments that tend to need more costly programs requires a new way of looking at energy efficiency in California.

NRDC proposes that the 2019 EEAP provide a path to reorganize EE PA programs to better align with the policy objectives that EE is required to fulfil. This can be accomplished by

¹ NRDC: “Powering Forward: Publicly Owned Utilities are Critical to California’s Energy Efficiency Progress” <https://www.nrdc.org/sites/default/files/powering-forward-california-pou-report.pdf>

² Cheaper wholesale natural gas prices lead to cheaper marginal electricity generation from gas fired power plants.

dividing existing EE portfolios into three sub-portfolios: (1) Resource EE, (2) Long-term Market Transformation EE, and (3) Equity EE. Each sub-portfolio should have its own policy objective-aligned approach to developing goals & budgets (including potential studies), cost-effectiveness frameworks, metrics, implementation, and evaluation.

As described below in more detail, these changes would (1) enable setting realistic targets and expectations for EE portfolios in line with California's climate goals, (2) increase the accountability of EE programs with respect to their policy goals, and (3) allow for a dedicated focus on California's non-resource and equity policy priorities.

- Resource energy efficiency programs are those programs whose primary objective is to meet future electric demand and comply with California's environmental goals. These need to be evaluated like supply side resources. Goals and budgets for these programs should be set through the integrated resource planning (IRP) process that plans for meeting future energy demand, reduces emissions in line with Senate Bill 350 and Senate Bill 100's 2030 and 2045 emissions reduction targets, and maintains grid reliability in a least-cost manner.

This approach would require the avoided costs and benefits for determining the right amount and type of EE based on assessing the marginal value of EE to meet the SB350 and SB100 goals. This shift in EE goal and budget setting would require a cost-benefit analysis that allows EE to be assessed on par with other supply side resources in the IRP process (i.e., the costs and benefits of the EE programs would be the same as those used to assess whether or not to rely on a conventional power plant).

- Long Term Market Transformation (LTMT) programs create lasting change in the market by removing barriers and/or exploiting opportunities to accelerate adoption of cost-effective EE. Developing a LTMT structure enables program administrators to better connect (currently siloed) emerging technologies, existing market intervention programs, and codes & standards initiatives into one logical market transformation framework. Evaluation of these programs will require a longer-term view of cost-effectiveness (i.e., what spending is cost-effective over the lifetime of a market transformation initiative). These programs are not suited for evaluation through the IRP model like resource EE

programs and will require costs and benefits that align with the long-term nature of programs.

- Equity programs provide customers in low- and medium-income households, as well as those in hard-to-reach and rural parts of the state, with crucial non-energy benefits such as affordability, health, comfort, safety, and resiliency. Thus, these programs accomplish substantially more than just energy savings and are essential to ensure that California's transformation to a clean energy system is done in an equitable manner. Section II.C. further elaborates on NRDC's recommendations relating to these programs.

2. The CEC should provide guidance for EE potential studies across the state to look at the unique characteristics of customer energy use to better assess energy-saving opportunities. (Expanding on EEAP Goal 1, Recommendation U)

The CEC – with the California Technical Forum and in collaboration with other impacted agencies and entities – should establish clear guidance for all potential studies across the state to ensure alignment with state climate and equity objectives. This would allow for a consistent approach to determining the efficiency potential for any EE PA (e.g., investor-owned or publicly owned utilities, regional energy networks, or community choice aggregators).

Setting this guidance is a critical role for the CEC given that the agency is responsible for determining how the state will achieve its goal to double energy efficiency. Given that programmatic goals for the investor-owned utilities (IOU) have decreased and the recent California Public Utilities Commission (CPUC) Potential and Goals (PG) study concluded that programmatic EE goals are less than half a percent³ of incremental energy sales, the CEC has an obligation to ensure all potential studies and policies across the state are aligned with achieving the state's goals.

Due to the lack of potential in the recent CPUC PG study, the CEC's analysis in the EEAP (e.g., figures ES-1 through ES-3 of the EEAP) show the majority of future EE savings are projected to come from improved codes & standards. Although California's building energy code and appliance standard's increasing contribution to energy savings towards SB350's doubling goal is a testament to the tremendous progress energy codes and standards have made

³ Navigant, [2019 Energy Efficiency Potential and Goals Study](#), (July 1, 2019), at 72

in California, this fact also raises concerns for how the next generation of codes and standards will come forward. Without identified opportunities for programs to ready the market for new codes and standards through energy-saving programs, EE PAs will not likely pursue such programs. If the state intends to continue pushing the envelope with energy efficiency codes and standards it is imperative that incentive programs lead the way to prepare the market for adoption of more efficient energy standards.

Apply more granularity to determining energy-saving estimates

Part of the guidance for potential studies should include a sharper focus on the unique characteristics of programs depending on the climate or type of customer being targets as well as the time or locational that it is implemented. For example, potential studies typically apply regional average measure savings estimates to determine EE savings potential across utility territories. Although these averages suffice for EE measures that are not weather sensitive and have predictable usage, they do not accurately assess energy savings potential for measures that are impacted by climate, socio-economic conditions, and consumer preferences among other reasons. Thus, to more accurately assess the true potential, this heterogeneity in per unit energy savings needs to be better considered when estimating energy savings potential to develop EE goals. The following scenario is one example of how the CEC's guidance can enable a more granular potential study that more accurately accounts for available savings opportunity.

Historically, potential studies (e.g., the CPUC PG study) first aggregate a measure's climate sensitive savings to determine on-average savings across a particular territory and then conducts economic and market potential analysis using this *average* savings estimate. However, in reality the energy savings for weather sensitive measures vary significantly (sometimes by a factor of 5)⁴ by climate zone while the incremental cost for the measure stays the same. This means the cost-benefit of the measure should be quite different in various climate zones given the range of energy-saving opportunities based on the need of the climate zone.

However, since the current method usually uses an average, this leads to inaccurate estimates of cost-effectiveness and customer payback, both important parameters in determining

⁴ NRDC looked up savings for Energy Impact ID "RE-HV-ResAC-45to65kBtuh-19S" in Single Family homes above pre-existing conditions. Savings per unit in DEER currently are 40 kWh/ unit for CZ1 and 206 kWh/ unit for CZ13.

market potential for weather sensitive measures. Energy savings potential modeling for these measures should take such savings variation into account and develop a more accurate estimate of energy savings potential for weather sensitive measures. Moreover, if the on-average measure is not cost-effective it is not reflected in programmatic cost-effective potential at all, even though large swathes of cost-effective opportunities for the measure may exist in certain climate zones.

3. The CEC should provide guidance for how best to target energy efficiency programs for maximum impact.

The draft EEAP should include an additional “best practices” task of designing programs that target the subset of customers with high energy savings potential. Without sufficient guidance, programs may continue to focus on average estimates provided in potential studies, as described above. In line with our recommendation above, on-average potential savings estimation method also does not provide programs with appropriate guidance to target high energy using customers to be able to maximize the program cost-effectiveness. We provide the following example to illustrate the impact that targeting can have on achieving greater savings.

To address customers with high usage, customer utility billing data should be applied to better target energy efficiency installs. Through studying customer energy usage data, EE PAs can identify customers with high energy savings potential and directly target those customers to prioritize cost-effective installs.

A recent study by PG&E⁵ illustrates how energy savings in the summer months can be maximized by better targeted programs. These targeted programs can be developed through analyzing detailed customer energy use data made available through advanced metering infrastructure (AMI) data. The PG&E study investigated summer cooling energy savings potential in the central valley and concluded that through data-analysis based targeting the energy savings potential for the same measures can be increased by a factor of two. This also reiterates the importance that energy efficiency potential studies consider the heterogeneity in energy use within customers to determine accurate estimates of cost-effective savings potential that guide EE PA programs.

⁵ Scheer, Borgeson, and Rosendo, [*Customer Targeting for Residential Energy Efficiency Programs: Enhancing Electricity Savings at the Meter*](#), (October, 2017), at iii.

C. Goal 2: Expanding Energy Efficiency in Low Income and Disadvantaged Communities

1. The CEC should better connect the findings and recommendations of the many studies referred to in the EEAP with to develop the recommendations for achieving the objectives of Goal 2. The EEAP should then include a clear implementation plan for how these recommendations can be applied to achieve Goal 2's objectives of removing barriers to energy efficiency in low-income and disadvantaged communities.
 - a. The barriers to implementing energy efficiency for low-income customers are described in the SB 350 Low-Income Barriers Study (the Barriers Study),⁶ which also includes recommendations like the need for data sharing across agencies and programs, the necessity for establishing coalitions between agencies and communities, and a call for more funding and technical assistance. While these recommendations from the Barriers Study are referred to in the EEAP, it is unclear how the EEAP intends to apply these recommendations to achieve Goal 2's objectives. NRDC strongly supports addressing critical barriers to scaling up efficiency in low-income and disadvantaged communities. However, similar to our general recommendation, the CEC should explain how these recommendations will be implemented to achieve this goal.
 - b. Although the EEAP highlights the ongoing work of the Barriers Study, the Clean Energy in Low-Income Multifamily Buildings Action Plan (CLIMB), the Energy Savings Assistance Program (ESAP), the Environmental and Social Justice Action Plan, the San Joaquin Valley Proceeding, the American Council for an Energy-Efficient Economy (ACEEE) Report on equity, and the CEC's Energy Equity Indicators Tracking Progress Report, the EEAP does not state which recommendations or findings from these reports, if any, were considered while developing five recommendations for Goal 2. The CEC should better connect the findings and recommendations from these individual studies to develop a

⁶ Scavo, Jordan, Suzanne Korosec, Esteban Guerrero, Bill Pennington, and Pamela Doughman. 2016. *Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-income customers and Small Business Contracting Opportunities in Disadvantaged Communities*. California Energy Commission. Publication Number: CEC-300-2016-009-CMF.

comprehensive set of recommendations that would help accomplish Goal 2's objectives.

Furthermore, as noted above, the extensive tasks in Goal 1 and Goal 3 should also be considered through an equity lens to ensure that low-income and disadvantaged communities have access to every opportunity to improve the efficiency of their homes and businesses, not only through the five recommendations laid out in Goal 2. The EEAP should further prioritize actions and develop a clear strategy to ensure that all Californians are able to easily access and benefit from energy efficiency programs.

2. The EEAP should more clearly lay out the tasks needed to ensure sufficient funding for low-income and disadvantaged community programs.

In the recommendations for Goal 2, it is mentioned - as a general idea - that new sources of financing are required. However, recommendation "c" of the same section states the following: "Current programs have funds but lack the capacity of mandate to meet the needs of residents and business." If the CEC considers that the funding available now is not enough to accomplish Goal 2, then the EEAP should recommend how to sufficiently fund this broad equity focused goal. In doing so, the CEC will be able to clearly map out existing sources of funding, potential overlaps, and gaps in funding to determine if a new source of funding is needed.

3. The final EEAP needs to establish a clear process for coordinating the multiple equity-focused implementation efforts currently underway across the state.

In "Component 1: Low Income and Disadvantaged Community Barriers,"⁷ the EEAP addresses how some of the recommendations from the SB 350 Low-Income Barriers Study have been developed into other action plans. Such is the case of CLIMB , which identifies current programs and policies, remaining challenges, and concrete actions that the state can take to accelerate the launch of distributed energy resources within California's multifamily housing stock.

Further, the EEAP mentions programs and plans such as ESAP – which provides no-cost home weatherization services, energy efficiency measures, and energy education to help eligible

⁷ Kenney, Michael, Heather Bird, Heriberto Rosales, and Antonio Cano. 2019. *2019 California Energy Efficiency Action Plan*. California Energy Commission. Publication Number: CEC-400-2019-010-SD. p.106.

low-income households conserve energy, reduce monthly bills, and improve health, comfort, and safety. It also references the Environmental and Social Justice Action Plan (ESJ), which intends to provide a broad look at communities long underserved. In addition, the EEAP recommends that the San Joaquin Valley Proceeding be considered a model initiative for replication due to the success of establishing a number of electrification projects based on extensive community participation.

These initiatives collectively reflect California's effort and commitment to solving the equity issue. However, the programs mentioned above are under different jurisdictions or proceedings that have different guidance and rules. Furthermore, each of the programs serve a unique purpose. The final EEAP should take a holistic view of these disparate programs and determine how the concrete actions and plans interact with each other, the level of coordination necessary, and what steps need to be taken to improve the coordination among these various efforts. For example, should these programs be statewide and under the same jurisdiction and budget? And if they are, what legislative change is needed and how the required amendments will be enacted to enable this statewide effort? Clear guidance that unifies how these activities are implemented is critical for success.

4. The CEC should include a recommendation in the final EEAP that all programs impacting low-income and disadvantaged communities be designed through an inclusive community decision-making process.

In the EEAP, the CEC cites stakeholder feedback on the workshops they conducted to inform the writing of the plan.⁸ Comments included references to the California Department of Community Services & Development Low-Income Weatherization Program (LIWP), highlighting how “the framework of the program allowed them to go after deeper retrofits than a traditional efficiency program” or the case of direct-installation programs in which stakeholders “raised the importance of local communities taking control of energy efficiency dollars in their regions.”⁹ The EEAP should include a recommendation that local communities be involved in

⁸ Kenney, Michael, Heather Bird, Heriberto Rosales, and Antonio Cano. 2019. *2019 California Energy Efficiency Action Plan*. California Energy Commission. Publication Number: CEC-400-2019-010-SD. p. 112.

⁹ Ibid. p. 116.

the decision-making process for equity programs design to ensure these programs empower communities.

D. Goal 3: Reducing Greenhouse Gas Emissions from Buildings

NRDC strongly supports the CEC’s vision of efficient building electrification as a key strategy to achieve California’s building decarbonization and economy-wide carbon emission reduction goals. Deep carbon emissions reductions in the building sector will require the maturation of emerging markets for electric appliances, careful integration of new electric loads on to the grid, and investment in disadvantaged and impacted communities. The scope of the 2019 California Energy Efficiency Action Plan (the “EEAP”) is commensurate with the magnitude of this challenge.

The EEAP clearly and correctly identifies electrification, particularly of space and water heating, as a primary method of achieving building decarbonization. The CEC-sponsored E3 study, “Deep Decarbonization in a High Renewables Future,”¹⁰ concluded that building electrification was a key component of the least-cost and least-risk pathway towards meeting California’s 2050 economy-wide carbon reduction goals. Electric heating technology also offers grid-wide benefits pertaining to load flexibility which can be used to integrate renewables. NRDC thus supports the Plan’s emphasis on better utilizing the load shifting capabilities of electric appliances.

CEC’s recommendations (and CEC’s work to date) provide a pathway for new all-electric construction in the Building Energy Efficiency Standards (BEES) and to expand research and development on electric HVAC and cooking technologies. To further support California’s goal of decarbonizing buildings, NRDC’s comments focus on the following:

- Maximize the value of the AB 3232 report to direct and guide state action on building decarbonization by initiating early data collection, soliciting early public input on scope, and providing quantitative analysis of strategies.
- Support local governments in addressing decarbonization their existing buildings; emphasize the importance of program integration and coordination to ensure

¹⁰ California Energy Commission, *Deep Decarbonization in a High Renewables Future*, (June,2018)

implementation of decarbonization programs build on each other; and address how to decarbonize equitably.

1. Engage stakeholders early in the development of the AB 3232 report

With AB 3232 (Friedman, 2018) requiring the CEC to assess the feasibility of reducing GHG emissions by 40 percent by 2030 from 1990 levels in buildings, the legislature clearly indicated that building decarbonization is a critical objective of California's building energy policies. Achieving AB 3232's 2030 goal, and the state's 2045 carbon neutrality goal, will require large-scale electrification of existing buildings. The question is how much electrification—and complementary energy efficiency and load flexibility—will be required to achieve these goals.

The intent of the AB 3232 report is to determine how building decarbonization can help achieve the state's greenhouse gas emission reduction goals at the lowest possible cost. The AB 3232 report will fill a vital knowledge gap by defining what actions need to be taken, and on what timescale, to achieve building decarbonization goals. To ensure that the report is most effective at informing implementation, it is important that the data collection and analysis include early stakeholder feedback. The October AB 3232 workshop to receive public comments on an appropriate emissions baseline is an important next step. NRDC encourages the CEC to further engage directly with stakeholders to shape data collection, analysis, and scenario development for the broader scope of the report.

Establish a scoping memo

NRDC recommends the CEC issue a scoping memo to invite public feedback early in the process on the following topics:

- Key questions the report will seek to address;
- How it proposes to address them, including methodology, and timeline; and
- What supporting data is available or may still need to be collected for the successful completion of the report.

Soliciting stakeholder feedback on the scoping memo will also help support specific facets of the report. The report should provide answers to the following questions: (1) What are

the costs associated with, and the greenhouse gas savings potential of, building decarbonization strategies?; (2) How and when will we need to implement building decarbonization strategies to meet California’s 2030 and 2045 greenhouse gas reduction goals?; (3) What strategies will be needed to address the impacts and potential challenges and benefits of electrification on low-income households and in multifamily and high rise buildings?¹¹; (4) What load management and grid integration efforts will support building decarbonization?; (5) What are the financial impacts and benefits of increasing electrification for ratepayers, construction costs, and grid infrastructure?; and (6) How will this report inform policy and program development moving forward?

Determine the potential savings from decarbonizing buildings

NRDC encourages the CEC to take a quantitative approach to the AB 3232 report. We recommend developing models for building decarbonization similar to those in the EEAP for energy efficiency goals. California’s climate goals are ambitious, and while it is clear that constructing new buildings without fossil fuel infrastructure will play an important role in decarbonizing the buildings sector, the lion share of emissions reduction needs to come from existing buildings. Quantifying the potential impact of various policy strategies that target existing building decarbonization will be essential to provide the Legislature with the necessary information to give agencies policy direction and allocate the necessary funds, as well as to track progress.

While we know building electrification will need to be scaled up quickly, we lack clear guideposts of how much carbon reductions can and will need to come from existing buildings. Quantitative results will help shape policies to scale electrification in existing buildings. We encourage the AB 3232 report to include scenario analyses, akin to E3’s decarbonization pathways, that project the impact of decarbonization strategies.

¹¹ “Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities.” *California Energy Commission*. December 2016.

2. NRDC offers the following suggestions to further improve recommendations for Goal 3 – Building Decarbonization.

Key strategies to advance building decarbonization include developing the market for electric appliances to reach households, driving demand in new and existing buildings, and aligning rate design and grid-management with all-electric homes. Recommendations presented in the EEAP support some of these objectives more comprehensively than others. We recommend expanding recommendations related to market development, local government support, program integration, and equity.

Market Development

Jumpstarting market development for electric appliances now is essential to be able to transform markets in a timely manner. The CEC should add additional recommendations on market development to complement SB 1477 program investment. The Building Decarbonization Coalition’s “A Roadmap to Decarbonize California Buildings,” includes strategic goals to advance builder and contractor demand for all-electric construction; we recommend the CEC include similar actions in this plan.

Additional recommendations to advance market development include:

Recommendation	Lead	Timeframe	Priority
Secure additional funding to offer incentives for developers to build all-electric homes	Legislature, Governor’s Office (GO)	Short-term	High
Establish networks of industry leaders and local governments to share best practices in electric building construction.	CEC	Short-term	Medium
Streamline and expedite permitting for all-electric new construction.	Local Governments	Short-term	High
Provide user-friendly resources for contractors and installers on electric appliances.	CEC	Short-term	Medium

Local Government Support

The EEAP should further emphasize the vital role local governments can and should play in advancing building decarbonization and provide additional resources to support local government action. As noted in the report, cities are beginning to move forward with zero emission reach building energy codes that encourage or require electrification. The CEC can

support local governments by providing them with additional resources. Recommendation 3.o (“Adopt building decarbonization reach codes for all building types by 2022”) should be complemented by support by CEC and by the Codes and Standards program team to local governments to adopt these reach codes.

Additional recommendations to support local governments include:

Recommendation	Lead	Timeframe	Priority
Provide educational resources to local governments on methods to improve code enforcement and compliance.	CEC / C&S Program	Short-term	Medium
Host trainings for staff in planning and building departments on design review for all-electric buildings, specifically to support enforcement of local government reach codes.	CEC / C&S Program	Short-term	Medium
Assess the ability of existing state and local benchmarking policies to include mandatory energy efficiency and emissions reduction retrofits for the lowest performing buildings.	CEC	Medium-term	High
Include the significant potential of building electrification in existing building stock in upcoming SB 350 Energy Efficiency goals update. Provide guidance on the identification of cost-effective fuel-switching in future gas energy efficiency potential studies.	CEC	Short-term	High

Program Integration

We encourage the CEC to include recommendations that establish long-term program integration for building decarbonization efforts with existing EE programmatic efforts. Early program coordination will help ensure implementation of decarbonization strategies at various state, local, and outside agencies achieve complementary rather than duplicative outcomes. Already, local governments are pursuing decarbonization efforts alongside key state initiatives like updating the BEES and implementing SB 1477 and AB 3232. Decarbonization programs will address diverse objectives, from managing peak demand, to advancing energy equity in underserved areas, to strategically retiring gas assets. Program coordination will be essential.

We encourage the CEC to develop additional recommendations like Recommendation 3.g. (“Develop a geographic map that includes utility districts, buildings, building classification, and building energy metrics to analyze the potential for building decarbonization through fuel substitution efforts, incorporating building benchmarking data where appropriate. Align this

work with the CPUC’s statewide ‘energy atlas’”). The CEC and CPUC are uniquely positioned to orchestrate these types of statewide efforts.

Additional recommendations to support program integration include:

Recommendation	Lead	Timeframe	Priority
Begin gathering information on asset planning and upcoming infrastructure investments from gas utilities to identify areas for strategic gas infrastructure retirement.	CEC, CPUC	Short-term	High
Facilitate communication through regular meetings of decarbonization program implementors, local governments, community organizations, and industry leaders to share best practices.	CPUC	Ongoing	Medium
Develop guidelines to ensure program implementors are enrolling all customers in appropriate rates and associated incentives to achieve cost savings through decarbonization programs.	CPUC	Short-term	Medium
Develop guidelines for program implementors and utilities for monitoring progress and customer satisfaction with decarbonization programs.	CPUC	Short-term	Medium
Engage existing solar, distributed energy storage, and energy efficiency program implementors on opportunities to direct existing customers to building decarbonization programs.	CPUC, CEC	Short-term	Medium

Equity and Building Decarbonization

NRDC strongly supports the Plan’s focus on equity and – consistent with our recommendations above – urges the CEC to specifically address equity needs related to building decarbonization. In particular, quantifying the co-benefits of electrification may serve as a vital impetus to investment in electrification in disadvantaged communities. Building decarbonization can advance energy access, reduce energy cost burdens, and support public health. We recommend the CEC develop specific recommendations that define next steps for valuing these

co-benefits. Additionally, without careful management, elective household electrification could create new equity concerns.

There are additional and unique barriers to implementing electrification programs in low-income and disadvantaged communities that could result in some communities to be left behind by a transition to all-electric homes. Building electrification programs will need to address issues like low home ownership rates, risk of eviction, limited access to capital, and building age and quality. Low-income households will need long-term funding streams to support electrification, rate and eviction protection, and culturally appropriate education to enroll households in electrification programs. We encourage the CEC to add additional recommendations to initiate long-term planning to mitigate equity impacts of decarbonization.

Additional recommendations to support equity include:

Recommendation	Lead	Timeframe	Priority
Identify and allocate a long-term funding source for electrification programs in low-income households.	Legislature, GO	Short-term	High
Quantify and evaluate the dollar value of co-benefits of electrification, specifically in relation to public health outcomes.	CEC	Medium-term	Medium
Include a Community Energy Navigator program component when implementing programs in low-income and disadvantaged communities. ¹²	CPUC	Short-term	Medium
Develop a comprehensive plan to implement building electrification in rental housing.	CEC, CPUC	Medium-term	High
Develop standard language and practice for eviction protection as part of all decarbonization programs in low-income communities.	CPUC	Short-term	Medium
Ensure low-income community members are engaged in the process of selecting appliances that are eligible for bulk purchasing in energy efficiency and building electrification programs.	CPUC	Short-term	Medium
Map communities at high-risk for increasing energy cost burdens due to voluntary electrification across the state.	CEC, CPUC	Medium-term	Medium
Monitor uptake of electric space and water heating in low-income communities and set program-wide targets for electric appliance penetration.	CPUC	Medium-term	Medium

¹² See “Decision Approving San Joaquin Valley Disadvantaged Communities Pilot projects.” CPUC. December 19, 2018.

